

## CITY OF HAMILTON

### **PUBLIC WORKS DEPARTMENT**

**(TRANSPORTATION DIVISION – PROGRAMS & CONTRACTS – LOCATION – 703 HIGHWAY NO. 8)**

### **ROADWAY MAINTENANCE DRAINAGE TECHNOLOGIST – CUPE 5167**

#### **SUMMARY OF DUTIES**

Reporting to the Project Manager, the Drainage Technologist is responsible to provide technical support services in the implementation of the Right-of-Way Drainage Program in accordance with legislation, policies, procedures and guidelines.

#### **GENERAL DUTIES**

Provides drainage management investigation & planning/services for the Programs & Contracts Section in Roadway Maintenance considering the needs of the City, residents and businesses and in accordance with government legislation, guidelines and related policies and procedures.

Monitors and assesses working capacity of existing roadway drainage infrastructure (culverts, ditches, watercourses, catch basins, etc.) in relation to approved design capacities/configuration. Develops and maintains a computerized Data base including input, manipulation and retrieval of data.

Provides inspections of roadway drainage infrastructure as required to meet City of Hamilton operational guidelines. Reviews and evaluates the performance of existing roadway drainage infrastructure and recommends maintenance/retrofits and any enhancements as may be required to maintain approved functionality of infrastructure and optimize on-going maintenance activities.

Assists in the forecasting and planning of maintenance works required for roadway drainage infrastructure such as culverts, ditches, drainage channels, catch basins and leads.

Assists Roadway Maintenance District staff with investigating drainage concerns.

Prepares permit applications for drainage related works for various Conservation Authorities and liaises with them and revises the permit applications as required.

Reviews and provides general inventory control for various roadway drainage infrastructure assets and services such as culverts, ditches, drainage channels, catch basins. Reviews and updates activities such as catch basin cleaning & repairs, flushing, CCTV inspections, phragmite's control.

Locates and reviews engineering drawing and as-builts in the City's database.

Reviews site alterations, capital projects scoping, development drawings and applications and provides comments for the Roadway Maintenance Section.

Prepares drawings and designs using AutoCAD and/or Microstation.

Prepares maps, sketches and schematics using ArcMAP GIS.

Able to complete culvert sizing & erosion control calculations using the MTO Drainage Manual

Able to complete culvert sizing, hydraulic and hydrologic analysis using Culvert Master and HECRAS

Meet and work with other internal departments and sections in multi-divisional drainage issues and investigations

Assists with winter data investigations during the winter season.

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Investigates and assists in the development of new/revised policies/procedures for improving the Section's technical operations/services as it relates to right-of-way drainage. Researches, evaluates and recommends work related procedures for right-of-way drainage planning activities.

Establishes and maintains regular drainage maintenance inspection programs and schedules maintenance as required ensuring all regulations, procedures and requirements within related drainage legislation and policies/procedures are met.

Supports activities on right-of-way drainage planning projects including assisting with the preparation of terms of reference, the collection of data and reviewing/commenting on consultants' reports and recommendations related to the following areas:

- Stormwater studies
- Master drainage plans
- Erosion Control and Remediation
- Natural Channel Design
- Hydrologic/Hydraulic Designs

Recommends public consultation techniques and data requirements for drainage related projects.

Liases with external agencies such as Ministry of Natural Resources, Ministry of Environment, neighbouring municipalities, Conservation Authorities and stakeholders' groups.

Responds to inquiries of a technical nature from public, staff from other departments, members of Council municipal and government agencies.

Assists in the preparation of reports and correspondence related to right-of-way drainage issues including operational/technical performance against established benchmarks.

Provides recommendations related to the Section's current budget as it relates to right-of-way drainage planning.

Educates and informs general public and others regarding program details and responsibilities.

Works in accordance with the provisions of applicable Health and Safety legislation and all City of Hamilton corporate and departmental policies and procedures related to Occupational Health and Safety.

Regularly updates spatial data used by internal staff

Updates GIS mapping to include newly developed and/or retrofitted infrastructure for provision to field staff.

Attends infrastructure pre-assumption meetings and evaluates infrastructure as per Approved Design drawings by other Department / Agencies. Provides comments with regard to outstanding deficiencies and monitors its completion.

Researches new technology and methodologies to improve field maintenance operations, training, etc.

Coordinates communication between management and field staff. Discuss operational concerns with PM and Superintendent and provides input on potential solution to problems.

Undertake drainage investigations as required by internal staff. Provides assessment and recommendations to mitigate flooding or water conveyance problems as it may be required from an operational point of view.

Performance of other duties as assigned related to the core responsibilities of the position.

### **QUALIFICATIONS**

1. Knowledge of the theories and practices of drainage & stormwater management normally acquired by attaining a three year Diploma as a Civil Engineering Technologist or a Bachelors Degree in the field of Civil Engineering or Water Resources Engineering or an equivalent combination of education and relevant experience.
2. As a minimum, must be a member of or eligible for membership with the Ontario Association of Certified

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Engineering Technicians and Technologists.

3. Specific knowledge and experience in the management of natural watercourses, storm water & drainage management, drainage infrastructure and sediment/erosion control practices.
4. Thorough knowledge and understanding of statutes, regulations and by-laws affecting the Section such as the Clean Water Act, Drainage Act, Source Water Protection Act, Water Resources Act, Environmental Protection Act, Fisheries Act, the Conservation Act, etc.
5. Highly effective research and analytical, written and oral communication, presentation, interpersonal and organizational skills.
6. Comprehensive knowledge of computer software applications such as Microsoft Office, Hansen, Microstation, ArcGIS, or equivalent Geospatial software and other related software such as data management and work order systems software applications in the area of drainage, hydrology & hydraulics.
7. Previous field experience in mapping, using transits, GPS equip and related software.
8. Must have a valid Class "G" Driver's Licence.

**THIS POSITION REQUIRES A VALID CLASS 'G' DRIVER'S LICENCE AND PROOF THEREOF IS REQUIRED AFTER HIRE.**

**THE INCUMBENT SHALL COMPLY WITH ALL HEALTH AND SAFETY POLICIES AND PRACTICES FOR THIS POSITION AND THE WORKPLACE**